

REMARKS

Claims 1-25 were presented for examination. Claims 1-25 were subject to the following restriction requirement: Group I claims 1-11 and Group II claims 12-25. The Drawings, Specification and Claims 19-25 were objected to. Claims 12, 13, 16-18, 20 and 24-25 were rejected under 35 U.S.C. §102(e) in view of Enjoji et al. (US 2004/0101728) while claims 14, 15, 22 and 23 were rejected under 35 U.S.C. §103 over Enjoji et al. (US 2004/0101728) in view of Walsh (US 2003/0044662).

In response to the objections to the Drawings, Specification and Claims 19-25 applicant encloses herewith replacement sheets for Figures 1A and 1B and amendments to the specification and claims to correct the items pointed out in the outstanding office action.

In response to the restriction requirement applicant hereby affirms the election of Group II with traverse. Applicant respectfully traverses the restriction requirement. There are two criteria for a proper requirement for restriction: (1) the inventions must be independent or distinct as claimed; and (2) there must be a serious burden on the examiner. Applicant respectfully submits that searching the subject matter of groups I and II, as outlined in the outstanding office action, does not place a serious burden on the Examiner. Moreover, applicant respectfully submits that the groups are related and that the restriction requirement is improper. Thus, applicant requests withdrawal of the requirement for restriction with regard to groups I and II.

Moreover, it is submitted that issuing one patent on the subject matter of groups I-II as defined in the outstanding office action would be more expedient for the United States Patent and Trademark Office, the inventor and the public. Thus, Applicant respectfully requests withdrawal of the Requirement for Restriction.

If however, the restriction requirement is maintained applicants request and authorize the canceling of claims 1-11 corresponding to Group I.

Turning now to Independent claim 12, the same has been amended to include the limitation of “adjusting a voltage of a power source in electrical communication with the thermoelectric layer in response to the measured temperatures to heat or cool the temperature of a portion of the fuel cell assembly in contact with the thermoelectric layer, wherein a direction of heat transfer of the thermoelectric layer is parallel to a surface area of the thermoelectric layer, the surface area being greater than a width of the thermoelectric layer and wherein a heat distribution of the fuel cell assembly is substantially uniform”.

In contrast, Enjoji et al. is directed to a fuel cell stack with a heating mechanism for heating an outermost fuel cell.

See paragraph 42 of Enjoji et al reproduced below:

As shown in FIG. 1, the fuel cell system 12 includes a heating mechanism 50, a power generation circuit 54, and a switching mechanism 56. The heating mechanism 50 heats the outermost fuel cell 14a provided at one end of the fuel cell stack 10 using external electrical energy. The power generation circuit 54 includes a predetermined number of, e.g., four electric heaters (loads) 52a through 52d corresponding to the four fuel cells 14a through 14d. The switching mechanism 56 selectively connects the fuel cells 14a through 14d to the power generation circuit 54, i.e., electrical energy generated in the fuel cells 14a through 14d is selectively supplied to the electric heaters 52a through 52d.

Moreover, Enjoji et al. fails to teach or disclose a “thermoelectric layer ... to heat or cool the temperature of a portion of the fuel cell assembly in contact with the thermoelectric layer”; “a direction of heat transfer of the thermoelectric layer [that] is parallel to a surface area of the thermoelectric layer, the surface area being greater than a width of the thermoelectric layer”; and “wherein a heat distribution of the fuel cell assembly is substantially uniform” as now claimed.

Turning now to Independent claim 18, the same has been amended to include the limitation of “providing a heat sink in thermal contact a periphery of the fuel cell stack” and “adjusting the voltage of the power source in response to the measured temperatures to heat or cool the temperature at the one or more locations of the fuel cell stack, wherein a direction of heat transfer of the thermoelectric layers is parallel to a surface area of the thermoelectric layers, the surface area being greater than a width of the thermoelectric layers and wherein a heat distribution of the fuel cell assembly is substantially uniform”.

As discussed above, Enjoji et al. fails to teach or disclose a thermoelectric layer to “heat or cool the temperature at the one or more locations of the fuel cell stack, wherein a direction of heat transfer of the thermoelectric layers is parallel to a surface area of the thermoelectric layers, the surface area being greater than a width of the thermoelectric layers and wherein a heat distribution of the fuel cell assembly is substantially uniform” as now claimed.

“A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.” *Verdegaal Bros. V. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). Moreover, “[t]he identical invention must be shown in as complete detail as is contained in the * * * claim.” *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989).

To anticipate a claim under 35 U.S.C. § 102, a single source must contain all of the elements of the claim. *Lewmar Marine Inc. v. Barient, Inc.*, 827 F.2d 744, 747, 3 U.S.P.Q.2d 1766, 1768 (Fed. Cir. 1987), *cert. denied*, 484 U.S. 1007 (1988).

Accordingly, applicant respectfully submits that claims 12 and 18, as amended, are allowable over Enjoji et al as the same fails to teach or disclose “adjusting a voltage of a power source in electrical communication with the

thermoelectric layer in response to the measured temperatures to heat or cool the temperature of a portion of the fuel cell assembly in contact with the thermoelectric layer, wherein a direction of heat transfer of the thermoelectric layer is parallel to a surface area of the thermoelectric layer, the surface area being greater than a width of the thermoelectric layer and wherein a heat distribution of the fuel cell assembly is substantially uniform" (claim 12) or "adjusting the voltage of the power source in response to the measured temperatures to heat or cool the temperature at the one or more locations of the fuel cell stack, wherein a direction of heat transfer of the thermoelectric layers is parallel to a surface area of the thermoelectric layers, the surface area being greater than a width of the thermoelectric layers and wherein a heat distribution of the fuel cell assembly is substantially uniform" (claim 18). Accordingly, claims 12 and 18 are believed to be allowable over Enjoji et al.

Claims 13-17 and 19-25 depend from either directly or indirectly from claims 12 and 18 accordingly, claims 13-17 and 19-25 are also believed to be in a condition for allowance for at least the same reasons as claims 12 and 18 in addition to including additional limitations.

In view of the above amendments and the discussion relating thereto, it is respectfully submitted that the present application is in condition for allowance. Such action is most earnestly solicited. If for any reason the Examiner feels that consultation with Applicants' attorney would be helpful in the advancement of the prosecution, the Examiner is invited to call the telephone number below for an interview.

If there are any charges due with respect to this Amendment or otherwise, please charge them to Deposit Account No. 06-1130, maintained by the applicant's attorney.

Respectfully submitted,

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IN THE DRAWINGS:

Please replace drawings Figures 1A and 1B with the replacement pages attached hereto.